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10/087,930	03/05/2002	Terrance M. Sharp	BAE 3036	5272
27510	7590	10/25/2005	EXAMINER	
KILPATRICK STOCKTON LLP 607 14TH STREET, N.W. WASHINGTON, DC 20005			GOFF II, JOHN L	
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1733

DATE MAILED: 10/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/087,930

Applicant(s)

SHARP, TERRANCE M.

Examiner

John L. Goff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 5-30 and 32-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-30 and 32-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This action is in response to the amendment filed on 8/8/05. The previous 35 USC 112 rejections have been overcome.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### *Claim Rejections - 35 USC § 102*

3. Claims 5, 8, 9, 15, 20, 21, and 32-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Ermert et al. (Publication from *Plastics Engineering* titled "R U Reinforcing plastics with robots?").

Ermert et al. disclose a robotic tape applicator system capable of applying double-sided adhesive tape to a workpiece (See page 3, the heading "Tape-laying", lines 1-14 and 23-31). Ermert et al. teach the **robot system comprises a computer**, i.e. the claimed computer means (See page 2, the heading "Figure 1", line 1), **a robotic arm** under the control of the computer having a **tape applicator head attachment**, i.e. the claimed tape applicator means (See page 3, the heading "Figure 4", line 1 and the "Tape laying tool" within Figure 4), and **a liquid applicator attachment**, i.e. the claimed activator applicator means capable of applying an activator liquid along a predetermined path prior to application of the tape (See page 1, the heading "Fiber sprayup", lines 1-3 and the "Fiber spraying tool" within Figure 2 on page 2), and **a work table**, i.e. means to hold a work piece in registration with the tape applicator means (See page 2, the heading "Figure 1", line 1 and the "Parts mounting table" within Figure 1). Ermert et

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al. teach the robotic arm **tape applicator head attachment comprises a roller**, i.e. the claimed roller capable of releasably storing two-sided adhesive tape it being noted the roller disclosed by Ermert et al. is the same as the roller described by applicants specification (See page 4, the heading "Figure 5", lines 1-3 and the "Tape feed roll" within Figure 5), a roll of pre-impregnated tape having an adhesive on both sides, i.e. a roll of two-sided adhesive tape (See page 3, the heading "Tape-laying", lines 1-5 and 23-25 wherein a two-side adhesive tape is clearly disclosed), a **guide means**, i.e. the claimed guide means to guide the tape to a tape applicator head (See Figure 5 and the deflection rolls (not labeled) between the "Tape feed roll" and "Tension rolls"), a **tensioning means**, i.e. the claimed tensioning means located between the roller and tape applicator nose capable of maintaining a uniform tension (See the "Tension rolls" within Figure 5), a **pneumatically press driven tape applicator nose** having a smooth radius the center point of which lies along a roll axis of the robotic arm, i.e. the claimed tape applicator nose capable of permitting reciprocal motion in a direction normal to the workpiece and a pneumatic piston capable of applying pressure to the tape applicator nose (See page 3, the heading "Tape-laying", lines 28-30 and page 4, the heading "Figure 5", lines 1-3 and the "Pressure laydown roll" and "Roll-carrier movement" within Figure 5), and a **cutting means**, i.e. the claimed cutting means integral with the tape applicator head capable of cutting the tape under the control of the computer (See page 4, the heading "Figure 6", lines 1-4 and the "Cutting" within Figure 5). Ermert et al. teach the **computer may include a program** for operating the robotic arm and tape applicator head attachment (See page 4, the heading "Programming and tool changing", lines 1-11 and page 6, glossary definitions for Control, Servos, and Programming method), it being noted any program including data for the proposed path of the tape would

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intrinsically include data respecting the shape of the workpiece such that the limitations in claim 5 regarding the programmed data are met.

Regarding claims 32 and 35, material or article worked upon does not limit apparatus claims (MPEP 2115).

Regarding claims 33 and 36, material or article worked upon does not limit apparatus claims (MPEP 2115).

Regarding claims 34 and 37, the manner of operating a device does not differentiate apparatus claims for the prior art (MPEP 2114). The tape applicator taught by Ermert et al. would be capable of applying tape along any programmed path including a curved path.

***Claim Rejections - 35 USC § 103***

4. Claims 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ermert et al.

Ermert et al. is described above in full detail.

Regarding claims 32 and 35, material or article worked upon does not limit apparatus claims (MPEP 2115). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the adhesive tape applicator taught by Ermert et al. to bond two substrates using the adhesive tape as only the expected results would be achieved.

Regarding claims 33 and 36, material or article worked upon does not limit apparatus claims (MPEP 2115). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the adhesive tape applicator taught by Ermert et al.

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to bond any two substrates together including those that are part of a vehicle as only the expected results would be achieved.

Regarding claims 34 and 37, the manner of operating a device does not differentiate apparatus claims for the prior art (MPEP 2114). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to operate the tape applicator taught by Ermert et al. along any programmed path such as a curved path as only the expected results would be achieved.

5. Claims 5, 8, 9, 15, 20, 21, and 32-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ermert et al. in view of Milacron (Publication of Cincinnati Milacron titled "Into The Future").

Ermert et al. is described in full detail above. As noted above, any program including data for the proposed path of the tape would intrinsically include data respecting the shape of the workpiece such that the limitations in claim 5 regarding the programmed data appear to be met. In any event, it would have been obvious to one of ordinary skill in the art at the time the invention was made to operate the computer taught by Ermert et al. using a well known and conventional tape applicator program such as that suggested by Milacron which includes data respecting the shape of the work piece and the proposed path of the tape as only the expected results would be achieved, i.e. the computer means would operate according to programmed data respecting the shape of the work piece and the proposed path of the tape to be adhered to the work piece.

Milacron disclose a tape applicator system including a computer and a tape applicator head wherein the computer controls the tape applicator head through a known and conventional

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program, the program including data respecting the shape of the work piece and the proposed path of the tape (Pages 4-6 and 21; see in particular the software representation on page 5 clearly showing the programmed data includes data respecting the shape of the workpiece and the proposed path of the tape).

Regarding claims 32 and 35, material or article worked upon does not limit apparatus claims (MPEP 2115). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the adhesive tape applicator taught by Ermert et al. as modified by Milacron to bond two substrates using the adhesive tape as only the expected results would be achieved.

Regarding claims 33 and 36, material or article worked upon does not limit apparatus claims (MPEP 2115). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the adhesive tape applicator taught by Ermert et al. as modified by Milacron to bond any two substrates together including those that are part of a vehicle as only the expected results would be achieved.

Regarding claims 34 and 37, the manner of operating a device does not differentiate apparatus claims for the prior art (MPEP 2114). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to operate the tape applicator taught by Ermert et al. as modified by Milacron along any programmed path such as a curved path as only the expected results would be achieved.

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6. Claims 5 and 8-11, 15-18, 20, 21, 27, and 32-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frank (U.S. Patent 4,382,836) in view of Ermert et al. and optionally Milacron or alternatively over Ermert et al. in view of Frank (U.S. Patent 4,382,836) and optionally Milacron.

Frank discloses a tape applicator head that may be carried by any stationary support structure (Column 5, lines 8-26). Frank teaches the **tape applicator head comprises a roller**, i.e. the claimed roller capable of releasably storing two-sided adhesive tape it being noted the roller disclosed by Frank is the same as the roller described by applicants specification (See Column 5, lines 31-35 and 20 of Figure 1), a **guide means**, i.e. the claimed guide means to guide the tape to a tape applicator head (See Column 5, lines 31-35 and 18 of Figure 1), a **nip roll tensioning means**, i.e. the claimed tensioning means located between the roller and tape applicator nose capable of maintaining a uniform tension (See Column 6, lines 16-19 and 64 and 66 of Figure 1), a **pneumatically press driven tape applicator nose** having a smooth radius the center point of which lies along a roll axis of the tape applicator, i.e. the claimed tape applicator nose capable of permitting reciprocal motion in a direction normal to the workpiece and a pneumatic piston capable of applying pressure to the tape applicator nose (See Column 5, lines 39-41 and 24 and 84 of Figure 1), a **tape breaking means** controlled by an actuator, i.e. the claimed tape braking means capable of holding the tape stationary during cutting (See Column 6, lines 30-38 and 74, 76, and 78 of Figures 1 and 2), and a **knife cutting means** that is fully retractable, controlled by an actuator, and located within the perimeter of the tape applicator, i.e. the claimed cutting means integral with the tape applicator head capable of cutting the tape (See Column 6, lines 58-68 and Column 7, lines 1-2 and Column 8, lines 48-68 and Column 9, lines



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1-2 and 98 and 100 of Figure 1). Frank is silent as to using the tape applicator head as part of a computer controlled robotic arm system. However, the tape applicator head taught by Frank is designed to be mounted on any movable support such that it would have been obvious to one of ordinary skill in the art at the time the invention was made to mount the tape applicator taught by Frank on any well known and conventional movable support for a tape applicator such as that shown for example by Ermert et al. (Ermert et al. is described in full detail above) wherein the system taught by Ermert et al. provides benefits such as automatic control of the tape applicator. Alternatively, Ermert et al. is not limited to any particular tape applicator (the tape applicator taught by Ermert et al. being part of a much larger system of interchangeable applicators) such that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use in the system taught by Ermert et al. the tape applicator taught by Frank for benefits such as the tape applicator would include tape braking means, a cutter located within the perimeter of the tape applicator, etc.

Regarding the computer, as noted above Ermert et al. teach the computer may include a program for operating the robotic arm and tape applicator head attachment, it being noted any program including data for the proposed path of the tape would intrinsically include data respecting the shape of the workpiece such that the limitations in claim 5 regarding the programmed data appears to be met. In any event, it would have been obvious to one of ordinary skill in the art at the time the invention was made to operate the computer taught by Frank as modified by Ermert et al. (or Ermert et al. as modified by Frank) using a well known and conventional tape applicator program such as that optionally suggested by Milacron which includes data respecting the shape of the work piece and the proposed path of the tape as only the

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expected results would be achieved, i.e. the computer means would operate according to programmed data respecting the shape of the work piece and the proposed path of the tape to be adhered to the work piece.

Regarding the particular type of tape used, it is noted applicant has claimed an apparatus wherein the material worked upon does not further limit (See MPEP 2115). In any event, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the adhesive tape in Frank as modified by Ermert et al. any conventional adhesive tape including two-sided adhesive tape as only the expected results would be achieved, it being noted Ermert et al. clearly disclose the use of two-sided adhesive tape.

Regarding the knife blade, Frank does not specifically disclose a sensor for detecting with then knife is retracted. However, it appears intrinsic to Frank as modified by Ermert al. (and Ermert et al. as modified by Frank) that the knife would include a sensor for detecting when the knife is retracted such that the apparatus is capable of operating and applying tape. In any event, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in Frank as modified by Ermert al. (or Ermert et al. as modified by Frank) a knife blade sensor to ensure the knife is retracted and taping may occur.

Regarding claims 32 and 35, material or article worked upon does not limit apparatus claims (MPEP 2115). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to the use the adhesive tape applicator taught by Frank as modified by Ermert et al. and optionally Milacron (or Ermert et al. as modified by Frank and optionally Milacron) to bond two substrates using the adhesive tape as only the expected results would be achieved.

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Regarding claims 33 and 36, material or article worked upon does not limit apparatus claims (MPEP 2115). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the adhesive tape applicator taught by Frank as modified by Ermert et al. and optionally Milacron (or Ermert et al. as modified by Frank and optionally Milacron) to bond any two substrates together including those that are part of a vehicle as only the expected results would be achieved.

Regarding claims 34 and 37, the manner of operating a device does not differentiate apparatus claims for the prior art (MPEP 2114). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to operate the tape applicator taught by Frank as modified by Ermert et al. and optionally Milacron (or Ermert et al. as modified by Frank and optionally Milacron) along any programmed path such as a curved path as only the expected results would be achieved.

7. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ermert et al., Frank, and optionally Milacron as applied in paragraph 6 above, and further in view of Roettger et al. (U.S. Patent 4,885,981).

Ermert et al., Frank, and optionally Milacron as applied above teach all of the limitations in claims 12 and 13 except for a specific teaching of the type of actuator used to operate the tape breaking means, it being noted Frank does not suggest or require any particular type of actuator. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use any well known and conventional actuator to operate the tape breaking means taught by Ermert et al. as modified by Frank and optionally Milacron (or Frank as modified by Ermert et al. and optionally Milacron) such as a pneumatic spring return actuator as shown for example by

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Roettger et al. wherein the pneumatic spring actuator has advantages such as being designed to fail in either a closed or open position.

Roettger et al. disclose conventional pneumatic spring return actuators wherein the actuators have the particular benefit of being designed to fail in either a closed or open position (Figures 1 and 2 and Column 1, lines 6-29 and Column 2, lines 57-61).

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ermert et al. as applied in paragraph 3 above, or Ermert et al. and Milacron as applied in paragraph 5 above or Ermert et al., Frank, and optionally Milacron as applied in paragraph 6 above, and further in view of Heindel et al. (U.S. Patent 5,342,647).

Ermert et al., Frank, and optionally Milacron as applied above teach all of the limitations in claim 6 except for a specific teaching of the liquid applicator attachment including a back pressure relief system, it being noted a liquid storage tank would have been intrinsic to the system taught by Ermert et al. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the liquid applicator attachment taught by Ermert et al. (or Ermert et al. as modified by Milacron or Ermert et al. as modified by Frank and optionally Milacron or Frank as modified by Ermert et al. and optionally Milacron) a back pressure relief system as was conventional in the art as shown for example by Heindel et al. to prevent the liquid applicator from clogging.

Heindel et al. are exemplary of a conventional liquid applicator wherein the applicator includes a storage tank, an application gun, and a back pressure relief system to prevent the applicator from clogging (Column 9, lines 44-50 and Column 10, lines 11-13).

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9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ermert et al. as applied in paragraph 3 above, or Ermert et al. and Milacron as applied in paragraph 5 above or Ermert et al., Frank, and optionally Milacron as applied in paragraph 6 above, and further in view of Manusch et al. (U.S. Patent 5,462,633).

Ermert et al., Frank, and optionally Milacron as applied above teach all of the limitations in claim 14 except for a specific teaching of including on the nose of the tape applicator projections/side guides less than the thickness of the tape capable of contacting the tape. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include on the nose of the tape applicator taught by Ermert et al. (or Ermert et al. as modified by Milacron or Ermert et al. as modified by Frank and optionally Milacron or Frank as modified by Ermert et al. and optionally Milacron) projections/side guides having a thickness less than the thickness of the tape being applied as it was well known in the art to include projections on the nose of a tape applicator head to ensure the tape is applied up to a maximum pressure thus preventing tears or bumps in the applied tape as shown for example by Manusch et al.

Manusch et al. disclose a tape applicator head including on the nose of the applicator projections having a thickness less than the thickness of the tape being applied to ensure the tape is applied up to a maximum pressure thus preventing tears or bumps in the applied tape (Figure 2 and Column 1, lines 38-44 and 66-67 and Column 2, lines 1-17 and 28-37).

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10. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ermert et al. as applied in paragraph 3 above, or Ermert et al. and Milacron as applied in paragraph 5 above or Ermert et al., Frank, and optionally Milacron as applied in paragraph 6 above, and further in view of Jensen et al. (U.S. Patent 6,537,406).

Ermert et al., Frank, and optionally Milacron as applied above teach all of the limitations in claim 19 except for a specific teaching of including vacuum ports on the tape applicator. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include adjacent the nose of the tape applicator taught by Ermert et al. (or Ermert et al. as modified by Milacron or Ermert et al. as modified by Frank and optionally Milacron or Frank as modified by Ermert et al. and optionally Milacron) vacuum ports as it was well known in the art to include vacuum ports adjacent the nose of a tape applicator to ensure the tape is applied wrinkle free as shown for example by Jensen et al.

Jensen et al. disclose a tape applicator head including a nose having adjacent vacuum ports wherein the vacuum ports ensure the tape is applied wrinkle free (Figure 5 and Column 7, lines 40-49).

11. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ermert et al. as applied in paragraph 3 above, or Ermert et al. and Milacron as applied in paragraph 5 above or Ermert et al., Frank, and optionally Milacron as applied in paragraph 6 above, and further in view of Cairns (U.S. Patent 6,189,587).

Ermert et al., Frank, and optionally Milacron as applied above teach all of the limitations in claim 28 except for a specific teaching of including a sensor to detect when the tape roll is depleted. It would have been obvious to one of ordinary skill in the art at the time the invention

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was made to include in the tape applicator taught by Ermert et al. (or Ermert et al. as modified by Milacron or Ermert et al. as modified by Frank and optionally Milacron or Frank as modified by Ermert et al. and optionally Milacron) a tape depletion sensor as was well known and conventional in the art for detecting the amount of tape remaining on the roll as shown for example by Cairns.

Cairns is exemplary in the art of a tape applicator wherein the tape supply roll includes a sensor for detecting an amount of tape remaining of the roll (Column 2, lines 11-14 and 19-23).

12. Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ermert et al. as applied in paragraph 3 above, or Ermert et al. and Milacron as applied in paragraph 5 above or Ermert et al., Frank, and optionally Milacron as applied in paragraph 6 above, and further in view of Grimshaw et al. (U.S. Patent 5,738,749).

Ermert et al., Frank, and optionally Milacron as applied above teach all of the limitations in claims 29 and 30 except for a specific teaching of including a linear bearing coupled to the tape applicator head. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include coupled to the tape applicator head taught by Ermert et al. (or Ermert et al. as modified by Milacron or Ermert et al. as modified by Frank and optionally Milacron or Frank as modified by Ermert et al. and optionally Milacron) a linear bearing to accommodate small changes in the surface contour of the workpiece as was known in the art as shown for example by Grimshaw et al.

Grimshaw et al. disclose a tape applicator head including a linear bearing to accommodate small changes in the surface contour of the workpiece (Column 5, lines 43-52).

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13. Claims 5, 8, 9, 15-18, and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murray et al. in view of Ermert et al. and optionally Milacron or alternatively over Ermert et al. in view of Murray et al. and optionally Milacron.

Murray et al. disclose a tape applicator head that may be computer controlled and carried by a stationary support structure. Murray et al. teach the **tape applicator head comprises a roller**, i.e. the claimed roller capable of releasably storing two-sided adhesive tape it being noted the roller disclosed by Murray et al. is the same as the roller described by applicants specification (See Page 6, lines 1-5 and 414 of Figure 4), a **guide means**, i.e. the claimed guide means to guide the tape to a tape applicator head (See Page 6, lines 46-50 and 467 of Figure 1), a **tensioning means**, i.e. the claimed tensioning means located between the roller and tape applicator nose capable of maintaining a uniform tension (See Page 9, lines 30-37 and 453 and 457 of Figure 4), a **pneumatically press driven non-rotary tape applicator nose** having a smooth radius the center point of which lies along a roll axis of the tape applicator, i.e. the claimed tape applicator nose capable of permitting reciprocal motion in a direction normal to the workpiece and a pneumatic piston capable of applying pressure to the tape applicator nose (See Page 5, lines 104-108 and Page 6, lines 75-79 and 447 and 448 of Figure 6 and 462 of Figure 4), and a **cutting means** that is fully retractable, controlled by an actuator, and located within the perimeter of the tape applicator, i.e. the claimed cutting means integral with the tape applicator head capable of cutting the tape (See Page 6, lines 96-106 and Page 7, lines 100-103 and 478 of Figure 7). Murray et al. are silent as to using the tape applicator head as part of a computer controlled robotic arm system. However, the tape applicator head taught by Murray et al. is designed to be computer controlled and mounted on any movable support such that it would have



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been obvious to one of ordinary skill in the art at the time the invention was made to mount the tape applicator taught by Murray et al. on any well known and conventional movable support for a tape applicator such as that shown for example by Ermert et al. (Ermert et al. is described above in full detail above) wherein the system taught by Ermert et al. provides benefits such as automatic control of the tape applicator. Alternatively, Ermert et al. is not limited to any particular tape applicator (the tape applicator taught by Ermert et al. being part of a much larger system of interchangeable applicators) such that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use in the system taught by Ermert et al. the tape applicator taught by Murray et al. for benefits such as the tape applicator would include a cutter located within the perimeter of the tape applicator, etc.

Regarding the computer, as noted above Ermert et al. teach the computer may include a program for operating the robotic arm and tape applicator head attachment, it being noted any program including data for the proposed path of the tape would intrinsically include data respecting the shape of the workpiece such that the limitations in claim 5 regarding the programmed data appears to be met. In any event, it would have been obvious to one of ordinary skill in the art at the time the invention was made to operate the computer taught by Murray et al. as modified by Ermert et al. (or Ermert et al. as modified by Murray et al.) using a well known and conventional tape applicator program such as that optionally suggested by Milacron which includes data respecting the shape of the work piece and the proposed path of the tape as only the expected results would be achieved, i.e. the computer means would operate according to programmed data respecting the shape of the work piece and the proposed path of the tape to be adhered to the work piece.

Regarding the particular type of tape used, it is noted applicant has claimed an apparatus wherein the material worked upon does not further limit (See MPEP 2115). In any event, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the adhesive tape in Murray et al. as modified by Ermert et al. any conventional adhesive tape including two-sided adhesive tape as only the expected results would be achieved, it being noted Ermert et al. clearly disclose the use of two-sided adhesive tape.

Regarding claims 32 and 35, material or article worked upon does not limit apparatus claims (MPEP 2115). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to the use the adhesive tape applicator taught by Murray et al. as modified by Ermert et al. and optionally Milacron (or Ermert et al. as modified by Murray et al. and optionally Milacron) to bond two substrates using the adhesive tape as only the expected results would be achieved.

Regarding claims 33 and 36, material or article worked upon does not limit apparatus claims (MPEP 2115). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to the use the adhesive tape applicator taught by Murray et al. as modified by Ermert et al. and optionally Milacron (or Ermert et al. as modified by Murray et al. and optionally Milacron) to bond any two substrates together including those that are part of a vehicle as only the expected results would be achieved.

Regarding claims 34 and 37, the manner of operating a device does not differentiate apparatus claims for the prior art (MPEP 2114). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to operate the tape applicator taught by Murray et al. as modified by Ermert et al. and optionally Milacron (or Ermert et al. as

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modified by Murray et al. and optionally Milacron) along any programmed path such as a curved path as only the expected results would be achieved.

14. Claims 19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ermert et al., Murray et al., and optionally Milacron as applied above in paragraph 13, and further in view of Jensen et al.

Ermert et al., Murray et al., and optionally Milacron as applied above teach all of the limitations in claims 19 and 24 except for a specific teaching of including vacuum ports on the tape applicator. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include adjacent the nose of the tape applicator taught by Ermert et al. as modified by Murray et al. and optionally Milacron (or Murray et al. as modified by Ermert et al. and optionally Milacron) vacuum ports as it was well known in the art to include vacuum ports adjacent the nose of a tape applicator to ensure the tape is applied wrinkle free as shown for example by Jensen et al. Jensen et al. is described above in full detail.

### ***Double Patenting***

15. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

16. Claims 5, 8-10, 14, 20-23, 27, and 32-37 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 4, and 5 of copending Application No. 10/991,853. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations of claim 5 are met by claim 1 of 10/991,853 except for a specific teaching of a means to hold the workpiece. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the system taught by 10/991,853 a means to hold the workpiece such that the tape applicator head is accurately positioned as was conventional as shown for example by Ermert et al. (described in full detail above). Furthermore, the limitations of claim 8 are met by claim 1 of 10/991,853 except for a specific teaching of the tape applicator head including a roll of tape. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the tape applicator head taught by 10/991,853 a roll for holding the tape as was conventional in the art as shown for example by Ermert et al.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### ***Allowable Subject Matter***

17. Claims 7, 25, and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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18. The following is a statement of reasons for the indication of allowable subject matter:

The claims are allowed for the reasons given in paragraph 18 of the Office Action mailed 4/7/05.

***Response to Arguments***

19. Applicant's arguments with respect to claims 5-31 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues, "The Office Action fails to provide a basis of fact and/or sufficient technical reasoning why a program that includes data for a proposed path for applying tape would intrinsically include data respecting the shape of the work piece."

The data for the proposed path for applying tape on a work piece intrinsically includes data respecting the shape of the workpiece, i.e. the proposed path respects/corresponds/is along at least a part of a shape of the work piece, such that the claim limitation is met. The claims do not require a set of data for the proposed path and a separate set of data for the shape of the work piece rather the claims require programmed data respecting/corresponding to the proposed path and the shape of the work piece.

Applicant further argues, "Thus, Ermert teaches the use of a sensor to avoid programming, thereby teaching away from programming the shape of a work piece as recited in claim 5 of the present application."

The passage referred to by applicant is to the impregnation rolling head and not the tape laying head of the apparatus taught by Ermert et al., and there is no mention in Ermert et al. of a sensor in the tape laying head. In any event, Ermert et al. clearly teach the use of a computer containing programmed data such that using a well known program such as that shown by Milacron would have been obvious.

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***Conclusion***

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571) 272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John L. Goff

  
~~JEFF H. AFTERGUT~~  
~~PRIMARY EXAMINER~~  
~~GROUP 1300~~

JEFF H. AFTERGUT  
PRIMARY EXAMINER  
GROUP 1300